

first and second parts 200 202. The upper piece 200 can have external threads and the lower piece 202 can have internal threads that can be screwed together.

FIG. 7C shows another embodiment where a first loop 198 and a second elongated element 236 are attached or connect to the handle 10. The first loop 198 and a second elongated element 236 can for formed from one cord (e.g., the elongated first element 198). The end of the cord 236 can have a washer and knot to secure the cord to the handle. The cords can have outer casings of beads and/or rubber portions. As shown in FIG. 7C (and 7D) the first loop is formed by attaching a first portion of the elongated first element to a second portion of the elongated first element; a section of the first loop is on or inside a portion of the handle.

FIG. 7D shows another embodiment where a first loop 198 and a second loop 240 are attached or connected to the handle 10. The first loop 198 and a second loop 240 can be formed from one cord or a plurality of cords. The cords can have outer casings of beads and/or rubber portions.

Fourth Configuration Option - Elongated Elements Without Loops

In the fourth configuration option (see e.g., FIG. 8D) the jump rope simulator does not have loops. The units are each comprised of: (1) a handle, (2) an elongated first element attached to the handle. The elongated element provides weight and air resistance during the rotation of the elongated first element. FIG. 8B shows the elongated first element comprised of a first cord 308 attached to the handle 10 and a soft flexible element 310 surrounding a portion of the first cord.

FIGS. 8A to 8D show embodiments of the invention comprised of: (1) a handle, (2) an elongated first element attached to the handle. The elongated element provides weight and air resistance during the rotation of the elongated first element.

FIG. 8A shows an embodiment where the elongated first element is comprised of a first cord 300 attached to the handle 10 and a soft flexible element 304 attached to the first cord. The soft flexible element can be comprised of rubber, foam, coated foam or other suitable material.

FIG. 8B shows an embodiment where the elongated first element is comprised a first cord 308 attached to the handle 10 and a soft flexible element 310 surrounding a portion of

the first cord 308. A washer 312 and knot 314 or other suitable attachment means can secure the flexible element 310 to the cord.

FIG. 8C shows an embodiment where the elongated first element is comprised of a first cord 316 attached to the handle 10 and a plurality of soft flexible elements 318 surround a portion of the first cord 316. A washer 320 and metal cord coupler 322 or other suitable attachment means can secure the flexible elements 318 to the cord.

FIG. 8D shows an embodiment where the elongated first element is comprised of an elongated first element 326 attached to the handle 10. The elongated first element 326 is preferably a cord or rope.

Dimensions For All Embodiments

The handles can preferably have a length of between 3 and 5 inches.

For embodiments that have loops, the loops preferably have a length from the handle to the furthestmost point of the elongated element that is between 10 and 24 inches and more preferably a length of 16 and 20 inches.

The units preferably have a distance from the handle to the furthestmost point of the elongated first element that is less than the length of the arm of the user; whereby the elongated first element should not strike the user in the head during use.

Operation Of The Virtual Jump Rope

The virtual jump rope can be used similarly to a regular jump rope except the simulated jump rope does not require a jump rope to travel under the user's feet. The virtual jump rope provides basically the same level of exercise as a regular jump rope when these devices are used in a similar fashion. The exertion required to twirl one long regular jump rope, which is divided between the two handles, is basically equal to the exertion required to twirl the two separate units of the virtual jump rope.

In addition to performing the exercise capabilities of a regular jump rope, the virtual jump rope provides numerous additional movements and capabilities. Additional movements that can be performed with the invention's virtual jump rope include leg squats, lunges, high stepping, kicking movements such as to the side, front or back, use with an aerobic step device, use with walking, jogging, or running exercise, jumping to tip toes or flexing of legs

without the user's feet leaving the ground. Also, whereas a regular jump rope allows only one basic arm movement, the virtual jump rope allows many different arm movements, including holding the arms at different positions such as far away from the body, different heights such as shoulder height, movements such as making large circles with the entire arm, and arm movements that can be out of synch with leg movements.

Advantages Of The Invention

The jump rope simulator of the present invention provides many benefits over conventional jump ropes and prior art jump rope simulators.

Embodiments of the invention do not have a rope go under the user's feet as with a traditional jump rope, so there is no cord to get caught on the user's feet, and users do not have to stop and restart their exercise

The jump rope simulator of the present invention provides superior performance and the realistic feel of a traditional jump rope. The loops of each unit are dual small arcs that perform equally well as the large single arc of a traditional jump rope. The loops of the invention provide a feel similar to a traditional jump rope, and provide a superior feel in contrast to the loopless simulators of the prior art. Another advantage of the embodiments of the invention are that the weight and wind resistance of the elongated element can be easily adjusted by changing the length of the loop, the number of loops or cords, the number of beads or soft outer coverings, etc. These are major advantages of the invention.

The jump rope simulator of the present invention provides an exercise workout simulating the jumping of a jump rope. Also, the jump rope simulator provides a total body workout with a wide range of intensity levels and with numerous additional arm & leg exercises. Leg movements include but are not limited to leg squats, lunges, high stepping movements,, use with an aerobic step device, use with walking, jogging or running exercise, leg movements that can be out of synch with arm movements, jumping up on tip toes or flexing of legs without the user's feet leaving the ground; and the many different arm movements include holding the arms at different positions such as close to or far from the body, keeping hands at different heights such as shoulder height, and movements such as making large circles with the entire arm instead of just normal wrist movements of jumping rope.